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ABSTRACT

This bibliography cites sources to assist middle, junior, and senior high school students and teachers in planning, preparing, and executing science fair projects in the environmental sciences. In addition, a few books with experiments suitable for elementary grade students are included. The listing includes: (1) 5 introductory texts; (2) 31 subject headings used by the Library of Congress under which books on environmental science projects can be located; (3) 9 basic texts; (4) 10 specialized titles; (5) 12 classroom experiments and activities in books and pamphlets; (6) 9 classroom experiments and activities in journal articles; (7) 15 handbooks, manuals, and reference tools; (8) 14 bibliographies and project indexes; (9) 7 book/film reviews and "best books" sources; (10) 6 abstracting and indexing services; (11) 20 journals; (12) 8 representative journal articles; (13) 13 selected materials; and (14) 4 additional sources of information. The listing is not intended to be comprehensive. (LZ)

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ENVIRONMENTAL SCIENCE PROJECTS

Compiled by Constance Carter

TB 94-3 **March 1994**

SCOPE Sources to assist middle, junior, and senior high school students and teachers in planning, preparing, and executing science fair projects in the environmental sciences are cited here, as well as a few books with experiments suitable for elementary grade students. Sources in other areas of science are listed in *Science Fair Projects* (LC Science Tracer Bullet 91-12), *Space Science Projects* (LC Science Tracer Bullet 92-7), and *Science Projects in Biology* (LC Science Tracer Bullet 93-6). Not intended to be a comprehensive bibliography, this literature guide is designed--as the name of the series implies--to put the reader "on target."

INTRODUCTIONS

Estes, Yvonne B. Environmental education: bringing children and nature together. *Phi delta kappan*, v. 74, May 1993: K1-K12. LJ121.P4
"Kappan special report."

Figueroa, Edna. Ecoprojects. *Science teacher*, v. 57, Feb. 1990: 36-38.
Q181.S38 and Pamphlet box <SciRR>

Mallow, David. Biodiversity: increase student awareness of this critical concept. *Science teacher*, v. 61: Apr. 1994: 19-21. Q181.S38

Ramsey, John M., Harold R. Hungerford, and Trudi Volk. A technique for analyzing environmental issues. *Journal of environmental education*, v. 21, fall 1989: 26-30.
S946.E54

Russell, Milton. Environmental protection for the 1990s--and beyond. *Environment*, v. 29, Sept. 1987: 12-15, 34-38. UF767.S33

BEST COPY AVAILABLE

SUBJECT HEADINGS used by the Library of Congress, under which books on environmental science projects can be located in most card, book, and online catalogs, include those listed below. Some libraries use the Dewey decimal classification system and/or the Sears list of subject headings. Consult your librarian for assistance in locating materials using these resources.

ECOLOGY--EXPERIMENTS (Highly relevant)
POLLUTION--EXPERIMENTS (Highly relevant)
SCIENCE--EXPERIMENTS (Highly relevant)
See also subdivision EXPERIMENTS under headings of particular interest, such as AIR--POLLUTION, BOTANY, BIOLOGY, EARTH SCIENCES, NATURAL HISTORY, OCEANOGRAPHY, WATER--POLLUTION
SCIENCE PROJECTS (Highly relevant)

ACID RAIN--ENVIRONMENTAL ASPECTS (Relevant)
AIR--POLLUTION (Relevant)
BIOLOGY--FIELD WORK (Relevant)
CONSERVATION OF NATURAL RESOURCES (Relevant)
DEFORESTATION (Relevant)
ENDANGERED SPECIES (Relevant)
ENVIRONMENTAL EDUCATION (Relevant)
ENVIRONMENTAL PROTECTION (Relevant)
ENVIRONMENTAL SCIENCES (Relevant)
GREENHOUSE EFFECT, ATMOSPHERIC (Relevant)
HAZARDOUS WASTES--ENVIRONMENTAL ASPECTS (Relevant)
HUMAN ECOLOGY (Relevant)
MARINE POLLUTION (Relevant)
NATURAL HISTORY--STUDY AND TEACHING (Relevant)
See also subdivision STUDY AND TEACHING or PROBLEMS, EXERCISES, ETC. under subject headings of interest, such as BOTANY, BIOLOGY, ECOLOGY, SCIENCE, URBAN ECOLOGY (BIOLOGY)
NATURAL RESOURCES--MANAGEMENT (Relevant)
NATURE STUDY (Relevant)
OIL SPILLS--ENVIRONMENTAL ASPECTS (Relevant)
See also subdivision ENVIRONMENTAL ASPECTS under headings of particular interest, such as AUTOMOBILES, PESTICIDES, POLLUTION, SEWAGE
OIL SPILLS AND WILDLIFE (Relevant)
OUTDOOR EDUCATION (Relevant)
OZONE DEPLETION (Relevant)
RAIN FOREST ECOLOGY (Relevant)
RECYCLING (WASTE, ETC.) (Relevant)
REFUSE AND REFUSE DISPOSAL (Relevant)
THERMAL POLLUTION OF RIVERS, LAKES, ETC. (Relevant)
URBAN ECOLOGY (BIOLOGY) (Relevant)
WATER--POLLUTION (Relevant)
WILDLIFE CONSERVATION (Relevant)

BASIC TEXTS

Bonnet, Robert L., and Dan Keen. *Environmental science: 49 science fair projects*. Blue Ridge Summit, Pa., TAB Books, c1990. 124 p. QH541.24.B66 1990
Suggests projects suitable for the classroom or a science fair.

Brown, Vinson. *Investigating nature through outdoor projects: 36 strategies for turning the natural environment into your own laboratory*. Harrisburg, Pa., Stackpole Books, c1983. 254 p. QH318.5.B7 1983
Bibliography: p. 243-248.

Gutnik, Martin J. *Ecology*. New York, F. Watts, 1984. 122 p. QH541.24.G87 1984
A collection of environmental science projects that demonstrate the delicate balance of ecological systems and how both people and nature can destroy this balance.

Hairston, Nelson G. *Ecological experiments: purpose, design, and execution*. Cambridge, Eng., New York, Cambridge University Press, 1989. 370 p.
Bibliography: p. 329-351. QH541.24.H35 1989 <SciRR>

Levine, Shar, and Allison Grafton. *Projects for a healthy planet: simple environmental experiments for kids*. New York, Wiley, c1992. 95 p. TD171.7.L48 1992
Projects designed to help students understand causes of pollution and to show them how to protect natural resources, and to create environmentally friendly products.

Rybolt, Thomas R., and Robert C. Mebane. *Environmental experiments about life*. Hillside, N.J., Enslow Publishers, c1993. 96 p. QH541.24.R93 1993
Uses experiments to explain ecosystems, life cycles, and interactions of life and environment including pollution and conservation.

Simon, Seymour. *Science projects in pollution*. New York, Holiday House, 1972. 118 p. TD176.S55
Bibliography: p. 115.
Instructions for experiments that demonstrate the causes and effects of various types of pollution.

Wald, Mike. *What you can do for the environment*. New York, Chelsea House, c1993. 109 p. TD171.7.W347 1993
Examines current environmental problems, explores possible solutions, and reviews environmental action and its effects.

Wong, Ovid K. *Hands-on ecology*. Chicago, Children's Press, 1991. 126 p. QH541.24.W66 1991
Activities to explore and emphasize ecology and to demonstrate practical ways of conserving the environment.

SPECIALIZED TITLES

Challand, Helen J. *Disappearing wetlands*. Chicago, Children's Press, c1992. 127 p. QH87.3.C43 1992

Examines the ecological role of wetlands and discusses how they are formed, what life they support, and how people modify or destroy them.

Cochrane, Jennifer. *Urban ecology*. New York, Bookwright Press, 1988, c1987. 47 p. "Organizations to contact": p. 44-45. QH541.5.C6C63 1987

Alternates factual information on the ecological aspects of an urban environment with activities and experiments, covering such areas as city water, parks and ponds, wild mammals in town, and trash.

Facklam, Howard, and Margery Facklam. *Plants: extinction or survival?* Hillside, N.J., Enslow, c1990. 96 p. SB123.3.F33 1990

Describes the importance of germplasm and how storage banks around the world are preserving plant seeds so that plant species will not be lost through disease and environmental conditions.

Gay, Kathlyn. *The greenhouse effect*. New York, F. Watts, 1986. 87 p. Bibliography: p. 81-82. QC912.3.G39 1986

Examines evidence that rising levels of carbon dioxide in the atmosphere may be changing the earth's climate.

Gutnik, Martin J. *Experiments that explore recycling*. Brookfield, Conn., Millbrook Press, c1992. 72 p. TD792.G87 1992

Uses experiments to demonstrate the effects of dumping solid waste into the environment and explores what can be done about it.

Middleton, Nick. *Atlas of environmental issues*. New York, Facts on File, c1989. 63 p. QH75.M486 1989

Describes and explains major environmental issues of the world today including soil erosion, deforestation, mechanized agriculture, oil pollution of the oceans, acid rain, overfishing, and nuclear power.

Milne, Lorus Johnson, and Margery J. G. Milne. *The mystery of the bog forest*. New York, Dodd, Mead, c1984. 127 p. QH541.5.B63M55 1984

Explains the origin of bogs, their special attractions, and the unique plant life to be found in them.

O'Connor, Karen. *Garbage*. San Diego, Calif., Lucent Books, c1989. 80 p. TD792.O26 1989

Examines the dumping of garbage in oceans, on land, in the air, and in space and suggests possible solutions to this problem of waste pollution.

Tesar, Jenny E. *Endangered habitats*. New York, Facts on File, c1992. 112 p. QH541.14.T47 1991

Examines the various types of the Earth's habitats, the complex relationships of plants and animals found in them, and how man's activities can upset or destroy fragile ecological balances.

Willis, Terri, and Wallace B. Black. *Cars--an environmental challenge*. Chicago, Children's Press, c1992. 127 p. TD886.5.B57 1992

Discusses the environmental damage and safety problems associated with the internal combustion engine, with an emphasis on emissions and air pollution.

CLASSROOM EXPERIMENTS AND ACTIVITIES

Books and Pamphlets

Burnett, Robin. *The pillbug project: a guide to investigation*. Washington, National Science Teachers Association, c1992. 99 p. QL444.M34B87 1992

Camp, William G., Thomas B. Daugherty, and Carla Kirts. *Managing our natural resources*. 2nd ed. Albany, N.Y., Delmar Publishers, c1991. 332 p. HC103.7.C33 1991

Examines the nature, history, and management of natural resources ranging from soil and water to forests, wildlife, and marine resources. Includes suggested activities and discussion of careers in the field.

Child, Elizabeth. *Eco-educator's guide*. Edited by Julie Berg. Edina, Minn., Abdo, c1993. 110 p. (loose-leaf) Pamphlet box <SciRR>

Global issues education set. Washington, Global Tomorrow Coalition, c1990. 111 p. (loose-leaf) Pamphlet box <SciRR>

Based on the *Global ecology handbook*, this compilation provides activities and lesson plans to inform students at the primary and secondary levels (grades 3-12) about specific global issues such as biological diversity, tropical forests, sustainable development, ocean and coastal resources, and the biosphere.

Hickman, Pamela M. *Habitats: making homes for animals and plants*. Reading, Mass., Addison-Wesley Pub. Co., c1993. 64 p. QH541.24.H53 1993

Includes directions for creating temporary habitats indoors that allow for the study of various animals and plants in natural settings.

McVey, Eileen. *Aqua-topics: aquaculture for youth and youth educators*. Beltsville, Md., Aquaculture Information Center, Public Services Division, National Agricultural Library, 1990. 16 p. Pamphlet box <SciRR>

Nature's classroom: a program guide for camps and schools. Storer Camps. Edited by Jennifer R. Cassens. Martinsville, Ind., American Camping Association, c1988. 118 p. LB1047.N37 1988
Bibliography: p. 114-115.

Schwartz, Linda. *Earth book for kids: activities to help heal the environment*. Santa Barbara, Calif., Learning Works, c1990. 184 p TD170.15.S39 1990
Creative ideas to show kids how to make their own paper, compare phosphate levels in detergents, test the effects of oil pollution, conduct a recycling survey, redesign a package, measure acidity, and make a difference in many other ways.

Sea sampler: aquatic activities for the field and classroom. Elementary, grades K-6. Compiled and edited by Wendy Beard Allen, Patty Owens McLaughlin. Charleston, S.C., South Carolina Sea Grant Consortium, 1985? 118 p. (Sea Grant publication SC-SG-TR85-1) Pamphlet box <SciRR>

Sea sampler: aquatic activities for the field and classroom. Secondary, grades 7-12. Compiled and edited by Wendy Beard Allen, Patty Owens McLaughlin. Charleston, S.C., South Carolina Sea Grant Consortium, 1985? 114 p. (Sea Grant publication SC-SG-TR85-2) Pamphlet box <SciRR>

Tips and tricks in outdoor education: approaches to providing children with educational experiences in the outdoors. Prepared by members of the Faculty in Outdoor Teacher Education, the Lorado Taft Field Campus of Northern Illinois University. Edited by Malcolm D. Swan. 4th ed. Danville, Ill., Interstate Printers & Publishers, c1987. 254 p. LB1047.T57 1987
A 5th ed. is in press.

Voris, Helen H., Maija Sedzielarz, and Carolyn P. Blackmon. *Teach the mind, touch the spirit: a guide to focused field trips*. Chicago, Dept. of Education, Field Museum of Natural History, c1986. 80 p. QH51.V67 1986
Bibliography: p. 75-76.

CLASSROOM EXPERIMENTS AND ACTIVITIES

Journal Articles

Anderson, Christopher L. Designing a zoo-based endangered species database. *Science activities*, v. 26, Nov./Dec. 1989: 14-18. Q181.A1S29

Domel, Rue. You <u>can</u> teach about acid rain: a worldwide issue becomes relevant when students investigate the pH values of common liquids. *Science & children*, v. 31, Oct. 1993: 25-28. LB1585.S34

Golden, Richard, and Cary Sneider. The greenhouse effect in a vial: an effective demonstration. *Science teacher*, v. 56, May 1989: 57-59. Q181.S38

Kneidl, Sally S. Pond ecology in the classroom. *Science activities*, v. 30, spring 1993: 19-31. Q181.A1S29

Kuserk, Frank T. Measuring discharge & materials transport in stream ecosystems. *American biology teacher*, v. 51, Feb. 1989: 100-102. QH1.A275

Mayer, Victor J., and Nadine K. Hinton. Animals in the classroom: considering the options. *Science teacher*, v. 57, Mar. 1990: 26-30. Q181.S38

Pierson, Duane R. The use of journals in nature study and field science. *Nature study*, v. 43, Mar. 1990: 23-25. QH81.N33

Swarthout, Flora L. The compost community: a closer look. *Science teacher*, v. 60, Oct. 1993: 45-47. Q181.S38

Voorhis, Ken. Taking a course in nature: lead your class toward a positive environmental ethic. *Science & children*, v. 31, Nov./Dec. 1993: 23-26. LB1585.S34

HANDBOOKS, MANUALS, AND REFERENCE TOOLS

Beacham's guide to environmental issues & sources. Edited by Walton Beacham. Washington, Beacham Pub., c1993. 5 v. GE115.B43 1993 <SciRR>
Vol. 5 includes cumulative index.

Brown, Vinson. *Building your own nature museum: for study and pleasure.* New York, ARCO Pub., c1984. 161 p. QH61.B88 1984
Bibliography: p. 138-152.
Gives instructions on how to acquire, care for, preserve, classify, display, and study animals, plants, rocks, and shells. Also includes ideas for projects and a list of equipment and specimen suppliers.

Conservation directory. 1st- ed.; 1956- Washington, National Wildlife Federation. Annual. S920.C64 <SciRR Desk>

Education for the earth: a guide to top environmental studies programs. Princeton, N.J., Peterson's Guides, c1993. 175 p. GE80.E33 1993 <SciRR>
"Published in cooperation with the Alliance for Environmental Education."
Bibliography: p. 165-168.

Encyclopedia of environmental information sources: a subject guide to about 34,000 print and other sources of information on all aspects of the environment. Sarojini Balachandran, editor. Detroit, Gale Research, c1993. 1813 p.
Z5863.P7E54 1993 <SciRR Desk>

Environmental education teacher resource handbook: a practical guide for K-12 environmental education. Edited by Richard J. Wilke. Millwood, N.Y., Kraus International Publications; Arlington, Va., In cooperation with National Science Teachers Association, c1993. 448 p. GE70.E582 1993 <SciRR>

Includes sections on curriculum design, curriculum projects, sources and ideas for special projects, State-level curriculum guidelines, and references to and reviews of educational materials, including videos.

Environmental grantmaking foundations: a directory. 1st- ed; 1992- Rochester, N.Y., Environmental Data Research Institute, c1992- Annual.

Vols. for 1992- accompanied by Supplemental index.

GE80.E58 <SciRR Desk>

Franck, Irene M., and David M. Brownstone. *The green encyclopedia*. New York, Prentice Hall General Reference, c1992. 485 p. GE10.F73 1992 <SciRR>

Bibliography: p. 480-486.

Gale environmental sourcebook. 1st- ed.; 1992- Detroit, Gale Research Inc. Biennial. GE20.G35 1992 <SciRR Desk>

The Global ecology handbook: what you can do about the environmental crisis. Global Tomorrow Coalition; edited by Walter H. Corson. Boston, Beacon Press, c1990. 414 p. TD171.7.G56 1990 <SciRR>

Names of relevant organizations and lists of books, articles, periodicals, audiovisual materials, and teaching aids are given at the end of each chapter, and an appendix supplies a directory of the organizations cited in the text.

Bibliography: p. 351-359.

Long, Kim. *Encyclopedia of field trips & educational destinations*. Santa Barbara, Calif., ABC-CLIO, c1991. 355 p. LB1047.L63 1991 <SciRR>

Pentz, Mike, and Milo Shott. *Handling experimental data*. Edited by Francis Aprahamian. Milton Keynes, Eng., Philadelphia, Open University Press, c1988. 95 p. Q182.3.P46 1988

Recycling study guide. Authors: Anne Hallowell and others. Madison, Bureau of Information and Education, Wisconsin Dept. of Natural Resources, 1989. 31 p.

"PUBL-IE-020 89Rev." Pamphlet box <SciRR>

Rittner, Don. *EcoLinking: everyone's guide to online environmental information*. Berkeley, Calif., Peachpit Press, c1992. 352 p. GE30.R57 1992 <SciRR>

Bibliography: p. 341-342.

World resources. A report by the World Resources Institute in collaboration with the United Nations Environment Programme and the United Nations Development Programme. 1986- New York, Oxford University Press. Biennial.

HC10.W827 <SciRR Desk>

BIBLIOGRAPHIES AND PROJECT INDEXES

Anglemyer, Mary, and Eleanor R. Seagraves. *The natural environment: an annotated bibliography on attitudes and values*. Sponsored by Global Tomorrow Coalition. Washington, Smithsonian Institution Press, 1984. 268 p. Z7405.N38A52 1984

A Core bibliography on global issues related to environment, resources, population, and sustainable development. Washington, Global Tomorrow Coalition, 1990. 28 leaves. Pamphlet box <SciRR>

Educators guide to free science materials. 1st- ed.; 1960- Compiled and edited by Mary H. Saterstrom. Randolph, Wis., Educators Progress Service. Annual. Q181.A1E3 <SciRR Desk>

Johnson, Carolyn M. *Discovering nature with young people: an annotated bibliography and selection guide*. New York, Greenwood Press, 1987. 495 p. Z5818.N36J64 1987 <SciRR>

In addition to substantial sections listing print and audiovisual materials for young readers and items for educators and parents, includes information about sources of reviews, educational and recreational programs, organizations and clubs, contests and assorted games, kits, puzzles, posters, and other supplies.

Marine education: a bibliography of educational materials available from the nation's Sea Grant College Programs. College Station, Tex., Sea Grant College Program, Texas A&M University, 1988. 35 p. Pamphlet box <SciRR>

An excellent guide to sources of free and inexpensive pamphlets and curriculum material on the marine environment. Complete instructions for ordering materials from over 30 institutions are given.

Pilger, Mary Anne. *Science experiments index for young people*. Englewood, Colo., Libraries Unlimited, 1988. 239 p. Q182.3.P735 1988b <SciRR>

Indexes experiments and activities in 694 elementary and intermediate science books.

----- ----- Update 91. Englewood, Colo., Libraries Unlimited, 1992. 133 p.

Indexes an additional 329 books. Q182.3.P55 1992 <SciRR>

Science fair project index. 1960-1972. Compiled by the staff of the Science and Technology Division of the Akron Summit County Public Library; edited by Janet Y. Stoffer. Metuchen, N.J., Scarecrow Press, 1975. 728 p. Q182.3.S34 1975 <SciRR>

----- 1973-1980. Edited by Science and Technology Division, Akron-Summit County Public Library. Metuchen, N.J., Scarecrow Press, 1983. 723 p. Q182.3.S34 1975 Suppl. <SciRR>

----- 1981-1984. Edited by Cynthia Bishop, Deborah Crowe, Science and Technology Division, Akron-Summit County Public Library. Metuchen, N.J., Scarecrow Press, 1986. 686 p. Q182.3.S34 1975 Suppl. 2 <SciRR>

----- 1985-1989. Edited by Cynthia Bishop, Katherine Ertle, Karen Zeleznik. Prepared by the Science and Technology staff of the Akron-Summit County Public Library. Metuchen, N.J., Scarecrow Press, 1992. 555 p.
Q182.3.S34 1975 Suppl. 3 <SciRR>

Science for children: resources for teachers. National Science Resources Center, Smithsonian Institution, National Academy of Sciences. Washington, National Academy Press, 1988. 176 p. Z5818.S3S38 1988 <SciRR>

Science experiments on file: experiments, demonstrations, and projects for school and home. New York, Facts on File, c1989. 1 v. (loose-leaf)
Q182.3.S33 1989 <SciRR>
"All of the experiments were obtained from a select group of master teachers--winners and finalists of the prestigious Presidential Award for Excellence in Science Teaching, named by the National Science Foundation."
Intended as a resource for students, grades 6-12.
See also *More Science Experiments on File* (New York, Facts on File, 1991. 1 v. (loose-leaf) Q182.3.M67 1990 <SciRR>), which offers 80 new projects for grades 3-12.

Sinclair, Patti K. *E for environment: an annotated bibliography of children's books with environmental themes.* New Providence, N.J., Bowker, c1992. 292 p.
Z1037.9.S57 1992 <SciRR>

BOOK/FILM REVIEWS AND "BEST BOOK" SOURCES

Appraisal: science books for young people. v. 1- winter 1967- Boston, Children's Science Book Review Committee. Z7401.A63

Malinowsky, H. Robert. *Best science and technology reference books for young people.* Phoenix, Oryx Press, 1991. 216 p. Z7401.M277 1991 <SciRR>

Morrison, Philip, and Phylis Morrison. Science books for young people. *Scientific American*, v. 269, Dec. 1993: 132-137, 139. T1.S5
Featured annually in the December issue. Title may vary.

Outstanding science trade books for children in 1992. *Science and children*, v. 30, Mar. 1993: 26-35. Best Books Vertical file <SciRR>
The annotated list is a regular feature of the March issue.

Science books & films. v. 1- ; Apr. 1965- Washington, American Association for the Advancement of Science. Z7403.S33 <SciRR A&I>

Science books & films' best books for children, 1988-91. Maria Sosa, Shirley M. Malcolm, editors. Washington, American Association for the Advancement of Science, c1992. 300 p. (AAAS publication, 92-30H) Z7401.S362 1992 <SciRR>

Wolff, Kathryn, Susan M. O'Connell, and Valerie J. Montenegro. *AAAS science book list, 1978-1986.* Washington, American Association for the Advancement of Science, 1986. 568 p. (AAAS publication, 85-24)
Q181.A1A68 no. 85-24 <SciRR>

ABSTRACTING AND INDEXING SERVICES that index relevant journal articles on science fair projects and school science activities are listed below. Some terms are suggested as aids in searching. The following indexes are available in most public and college libraries.

Current Index to Journals in Education (1969-)
Z5813.C8 <MRR> and ERIC CD-ROM <MRR>
See: Conservation Education
Environmental Education
Science Experiments
Science Projects

General Science Index (1978-) Z7401.G46 <SciRR>
See: Conservation of Resources
Environmental Education
Science Fairs, School

Magazine Index (1980-) Available in several formats in LC
See: Conservation of Natural Resources--Study and Teaching
Environmental Education
Science--Experiments

Readers' Guide to Periodical Literature (1900-) AI3.R45 <B&E>
See: Science Experiments
Science Fairs

Resources in Education (1966-) Z5813.R4 <MRR> and ERIC CD-ROM <MRR>
See: Conservation (Environment)
Environmental Education
Science Activities
Science Experiments
Science Fairs
Science Projects

Vertical File Index (1932/1934-) Z1231.P2V48 <MRR>
See: Science--Study and Teaching
Subject of interest, e.g., Endangered Species, Natural History, Natural Resources

Students may also need to use subject-oriented abstracting and indexing services for information on subjects related to the environment. Sample titles are listed below. These may be available only in large or specialized libraries.

Applied Science & Technology Index (1913-)
Bibliography and Index of Geology (1933-)
Biological Abstracts (1926-)
Biological & Agricultural Index (1916-)
Biology Digest (1974-)
Chemical Abstracts (1907-)
Ecological Abstracts (1974-)
Ecology Abstracts (1975-)
Energy Research Abstracts (1976-)
Environment Abstracts Annual (1971-)
Environmental Periodicals Bibliography (1972-)
EPA Publications Bibliography (1977-)
Meteorological & Geoastrophysical Abstracts (1950-)
Pollution Abstracts (1970-)
Wildlife Review (1935-)
Zoological Record (1864-)

JOURNALS that often contain relevant articles are

American Biology Teacher QH1.A275
Audubon QL671.A82
Buzzworm's Earth Journal QH75.A1B89
Defenders S960.D43
E: the Environmental Magazine TD171.7.E13
Environment UF767.S33
Garbage TD785.G37
Journal of College Science Teaching Q183.U6J68
Journal of Geological Education QE40.J6
National Wildlife S964.U6N35
Nature Study QH81.N33
Orion QH1.O714
Ranger Rick's Naturescope WMLC L83/4136 Ser
Science Activities Q181.A1S29
Science & Children LB1585.S34
Science News Q1.S76
Science Scope Not in LC collections
Science Teacher Q181.S38
Scientific American T1.S5
See particularly "Amateur scientist" feature which appears each month.
World Watch WMLC 93/323

REPRESENTATIVE JOURNAL ARTICLES

Blakenship, Sylvia, Donna D. Ellsworth, and Tracy Traer. How landscape plants modify the environment. *Science activities*, v. 29, winter 1992/93: 14-17.
Q181.A1S29

Browning, Wayne C. Construction of a small fresh water ecosystem. *Science activities*, v. 20, Sept./Oct. 1983: 25-28. Q181.A1S29

Clark, David B., and Ronald E. Thompson. Acid rain, pH & acidity: a common misinterpretation. *American biology teacher*, v. 51, Jan. 1989: 11-13. QH1.A275

Grossman, Dan, and Seth Shulman. Down in the dumps: a fearless team of archeologists has descended deep into the nation's landfills to learn the fate of our garbage. *Discover*, v. 11, Apr. 1990: 36-41. Q1.D57

Ojala, Carl F., and Eric J. Ojala. Airborne particles: the humble vacuum cleaner makes a first-rate air sampler in this environmental science activity. *Science teacher*, v. 54, Sept. 1987: 41-42. Q181.S38

Schicker, Lisa. Planning for children and wildlife begins at home. *Journal of environmental education*, v. 19, summer 1988: 13-21. S946.E54

Schneider, Mike. Setting up an outdoor lab. *Science & children*, v. 21, Jan. 1984: 17-20. LB1585.S34

Wilson, Edward O. Threats to biodiversity. *Scientific American*, v. 261, Sept. 1989: 108-112, 114, 116. T1.S5

SELECTED MATERIALS available in the Science Reading Room pamphlet boxes include:

Braus, Judy, and Diane O'Reilly. Celebrating life's diversity. *Science scope*, v. 17, Feb. 1994: 28-29.

Includes a "Windows on the Wild" foldout poster and describes a new environmental education program being developed by the World Wildlife Fund, with support from Eastman Kodak, to produce innovative materials and programs to help students better understand biodiversity.

Cothron, Julia H., Richard J. Rezba, and Ronald N. Giese. What to keep in mind during experimental design: skill-sharpening scenarios. *Science teacher*, v. 56, Nov. 1989: 32-36.

Endangered species: wild & rare. Washington, National Wildlife Federation, c1988. 65 p. (Ranger Rick's naturescope, v. 3, no. 3)

Includes listings of reference tools, activity sources, films, videos, kits, posters, software, and information resources.

Environmental experiments ... from Edison. Southfield, Mich., Thomas Alva Edison Foundation, 1990, c1973. 32 p.

Koenig, Sharon, and Robert Koenig. Hometown ecology: a river rescue in progress. *Science teacher*, v. 56, Nov. 1989: 53-55.

Laycock, George. The children's crusade. *Wildlife conservation*, v. 93, May/June 1990: 42-49.

Across America, youngsters at school and at home are helping to clean up the environment and protect the nation's wildlife. Information on how to join Kids Against Pollution (KAP) is included.

MacKenzie, William H. The trashy sea around us. A disgraceful plastic tide is fouling the oceans--and killing marine animals. *Defenders*, v. 62, May/June 1987: 30-37.

Mohlenbrock, Robert H. Why should we save our plants? *Nature Conservancy magazine*, v. 37, Nov./Dec. 1987: 4-9.

Rain forests: tropical treasures. Washington, National Wildlife Federation, c1989. 68 p. (Ranger Rick's naturescope, v. 4, no. 4)

Includes listings of reference tools, activity sources, booklets, films and videos, and the location of zoological parks and other institutions that have tropical rain forest exhibits.

Ryan, John C. When nature loses its cool: species loss, already a thousand times above normal rates, promises to get far worse when the effects of global warming--rising sea levels and climate change--begin in earnest. Which species will survive? Where will they go? Can we live without them? *World watch*, v. 5, Sept./Oct. 1992: 10-16.

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Virtue, Damaris H. Highway ecology. *Science teacher*, v. 56, Sept. 1989: 48-49.

ADDITIONAL SOURCES OF INFORMATION

Global Tomorrow Coalition
1325 G Street, N.W., Suite 915
Washington, D.C. 20005-3104
Telephone: (202) 628-4016

Publishes educational materials on global ecology and sustainable resources.

National Science Teachers Association
1840 Wilson Boulevard
Arlington, VA 22201-3000
Telephone: (703) 243-7100

Publishes *Science Fairs and Projects*, *Science and Children*, *Science Scope*, and *Journal of College Science Teaching*.

National Wildlife Federation
1400 16th Street, N.W.
Washington, D.C. 20036-2266
Telephone: (202) 797-6800

Publishes *National Wildlife*, *Ranger Rick's Nature Magazine*, *Ranger Rick's Naturescope*, and other publications of interest to students and environmentalists.

Science Service
1719 N Street, N.W.
Washington, D.C. 20036
Telephone: (202) 785-2255

Administers the International Science and Engineering Fair and the Westinghouse Science Talent Search.